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# THUNDER BAY AREA OF CONCERN

## Status Update: Beach Closings Beneficial Use Impairment



Sandy Beach on Thunder Bay, Ontario (Jim Bailey, 2014)

# Delisting Criteria: Beach Closings BUI

- Developed by the Thunder Bay RAP Implementation Committee (RAPIC) and the Public Advisory Committee (PAC) in 2013:
  - 1) All public beaches have identified primary sources of fecal pollution and pollution control plans have been developed and implemented, including:*
    - *Management of stormwater inputs*
    - *Upgrades of septic systems to provincial standards*
    - *Implementation of a management program for birds and animals*
    - *A completion of feasible actions to improve water circulation*
  - 2) Water quality testing carried out at all public beaches on a regular, frequent and ongoing basis demonstrates that 80% of geometric means have E.coli counts of **100** or less colony forming units per 100mL of water (MOE, 1994) based on a five year monitoring average*
- Criterion # 2 is linked to MECP's **Provincial Water Quality Objectives** and MOHLTC's **Recreational Water Quality Guideline**



# Revised Delisting Criteria

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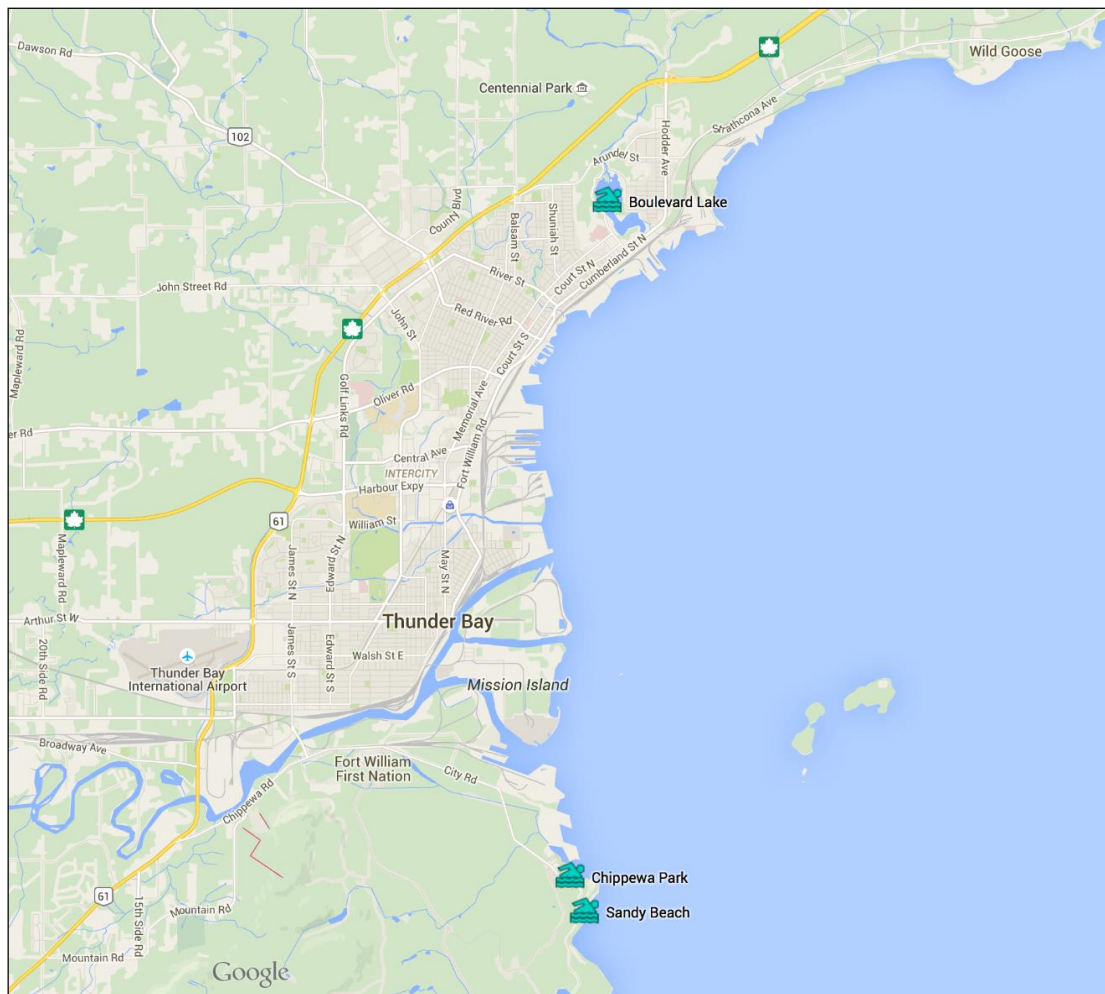
- Effective January 1, 2018, MOHLTC's guideline revised from a geometric mean of  $\leq 100$  *E.coli* per 100mL to  $\leq 200$  *E.coli* per 100mL
- To reflect the MOHLTC guideline changes and to stay consistent with and linked to the government guideline, delisting criterion #2 will be updated:

*2) Water quality testing carried out at all public beaches on a regular, frequent and ongoing basis demonstrates that 80% of geometric means have *E.coli* counts of 200 or less colony forming units per 100mL of water ( $\leq 200$  *E.coli*/100mL) (MOHLTC, 2018b) based on a five year monitoring average.*



# Thunder Bay Beaches

- Boulevard Main
- Chippewa Main
- Chippewa Sandy



# Monitoring

- Thunder Bay District Health Unit has and continues to routinely monitor bacterial levels at Chippewa Main, Chippewa Sandy and Boulevard Main beaches since 2005
- Samples are collected on a weekly basis from the end of June to the end of August
  - A minimum of 5 samples collected per visit to calculate the geometric mean

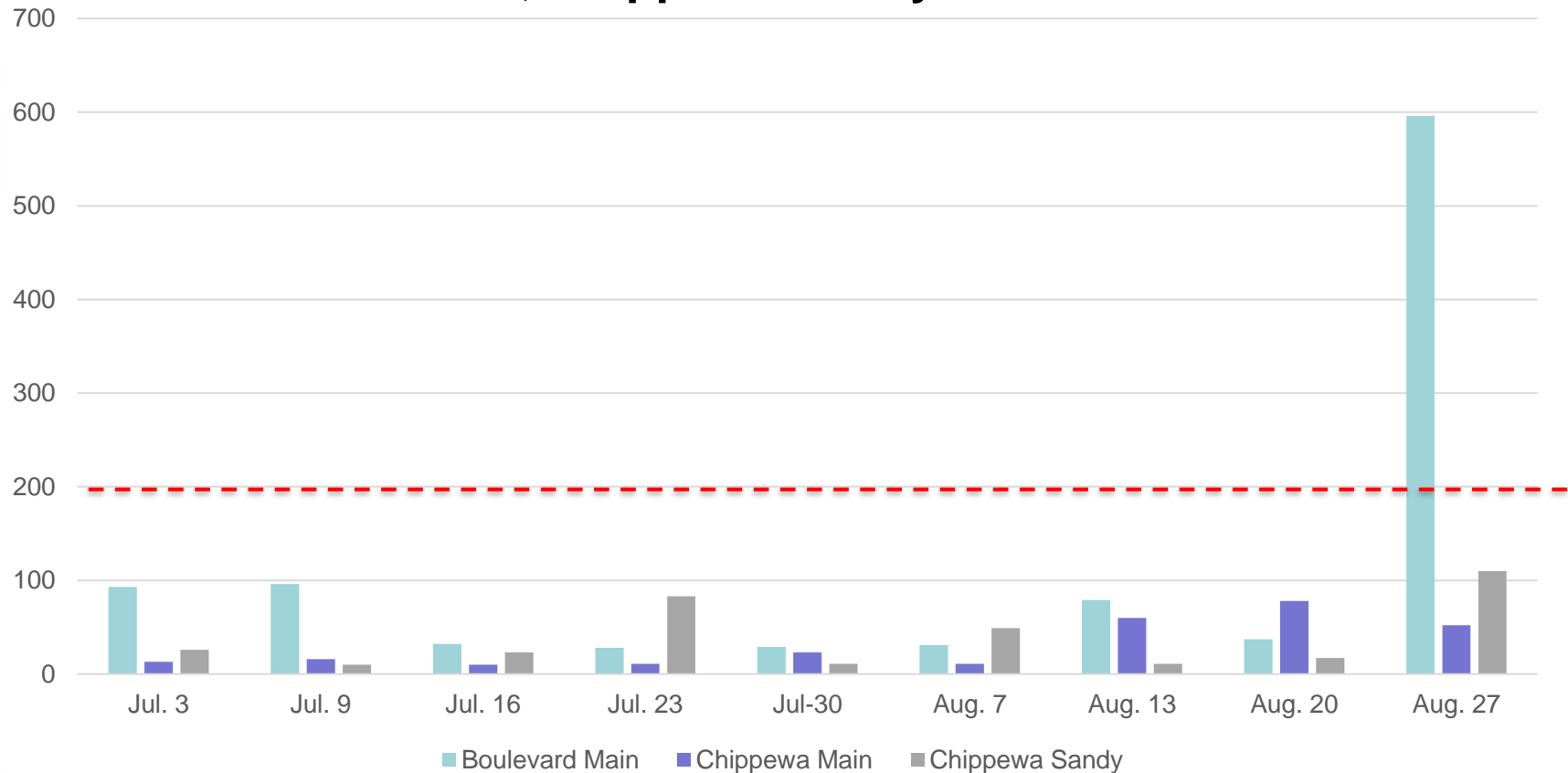


Chippewa Main Beach on Thunder Bay, Ontario (CBC News, 2018)



# Monitoring Results

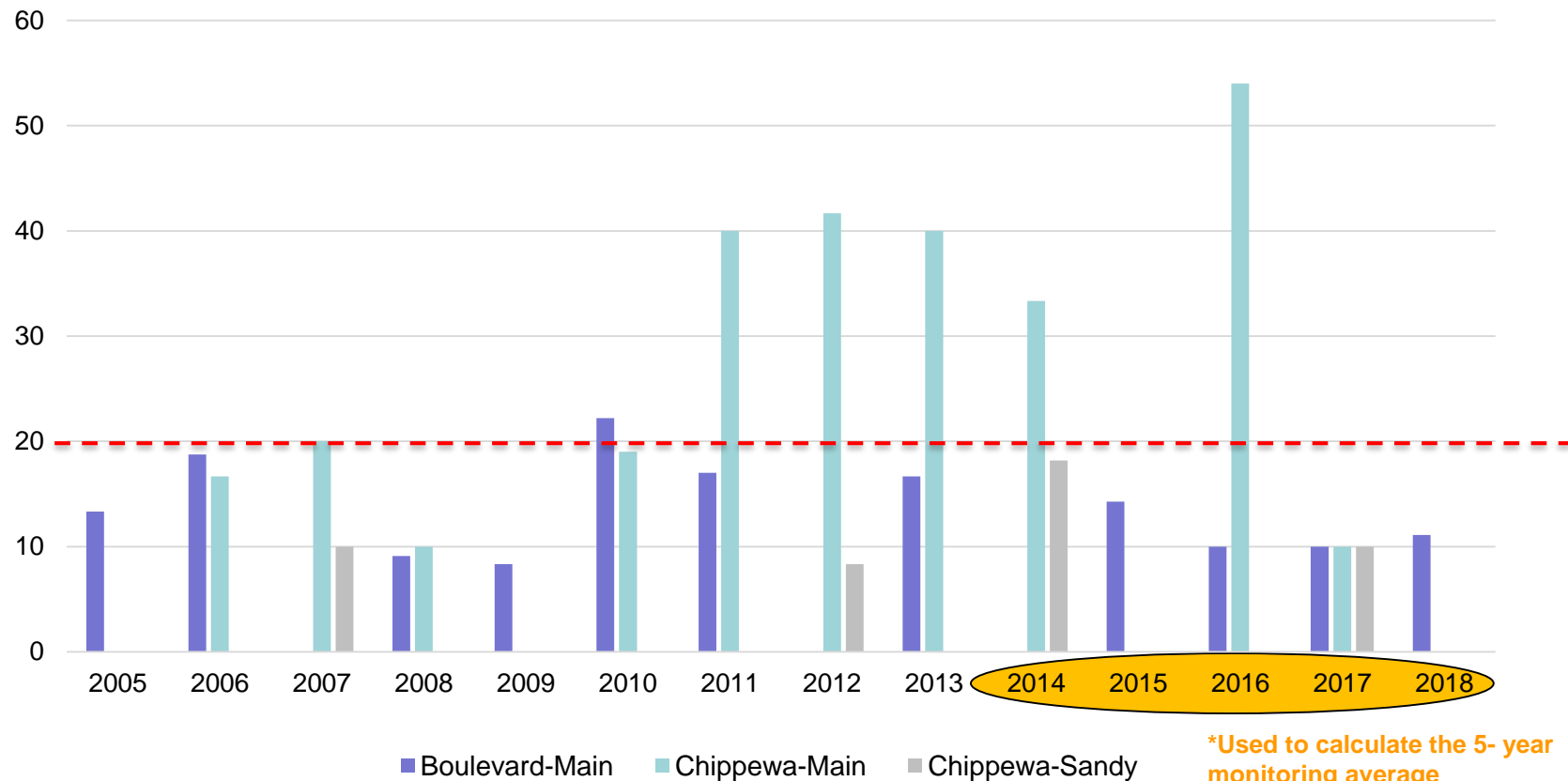
## 2018 Geometric Means for Boulevard Main, Chippewa Park, Chippewa Sandy Beaches





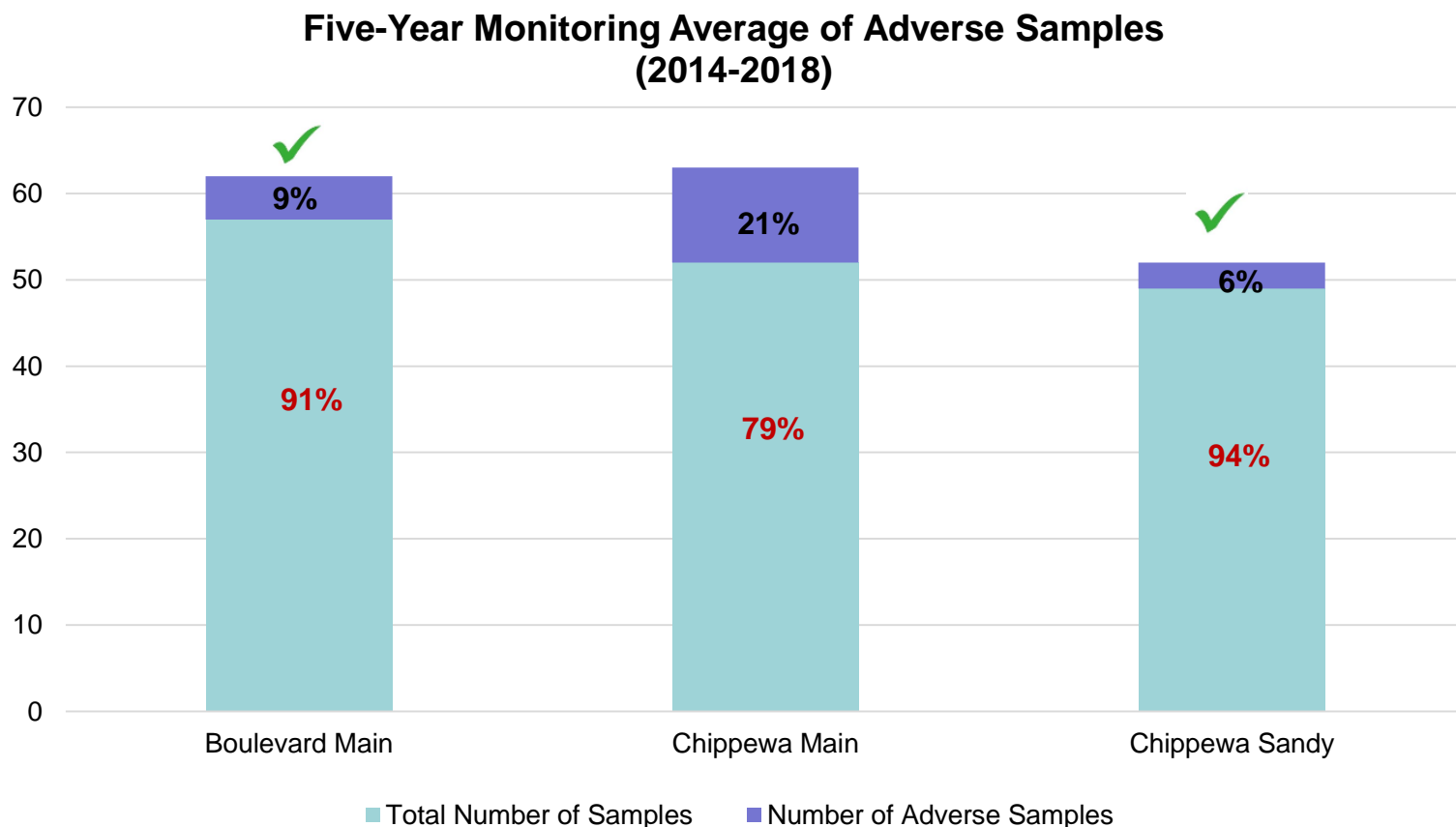
# Monitoring Results

## Percentage of Adverse Conditions (2005-2018)



# Monitoring Results

**Recall:** Water quality testing carried out at all public beaches on a regular, frequent and ongoing basis **demonstrates that 80% of geometric means** have *E.coli* counts of 200 or less colony forming units per 100mL of water based on a five year monitoring average.





# Delisting Criterion #1

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*1) All public beaches have identified primary sources of fecal pollution and pollution control plans have been developed and implemented, including:*

- Management of stormwater inputs*
- Upgrades of septic systems to provincial standards*
- Implementation of a management program for birds and animals*
- A completion of feasible actions to improve water circulation*

***12 out of 19 Remedial Actions Completed!***



# Completed Actions

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- *Identified primary sources of fecal pollution*
  - 2011 Fratpietro DNA study concluded human fecal matter was not a contribution factor at Chippewa Main and Boulevard Main beaches.
- *Management of stormwater inputs*
  - Between 1993 and 1997, improvements to wastewater treatment at local pulp and paper mills were implemented by local industries in response to provincial and federal wastewater regulations.
  - Chippewa Main Beach: Re-grading beach, drainage system upgrades, sediment removal post 2003 dredging.



# Completed Actions

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- *Upgrades of septic systems to provincial standards*
  - Installation of new septic field for public washrooms at Chippewa Main Beach
  - RV park septic system upgraded at Chippewa Main Beach
- *Implementation of a management program for birds and animals*
  - Bird hazing and egg depredation program, and removal of band shell at Chippewa Main Beach
  - Grass grooming/raking programs
- *Stormwater Management Master Plan – Boulevard Lake Beach*



# Next Steps

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- Continue to evaluate monitoring data from Chippewa Main, Chippewa Sandy and Boulevard Main beaches to include 2019 beach season
- Produce an Assessment Report to make a case for BUI re-designation to “Not Impaired”

## QUESTIONS?

